

## **REMARKS**

### **A. Background**

Claims 21-23 and 25-36 were pending in the application at the time of the Office Action with claims 22, 23, and 25-29 having been withdrawn due to an earlier restriction requirement. Claim 33 was rejected as being indefinite. Claims 21 and 30-36 were rejected as being obvious over cited art. By this response applicant has amended claims 21, 32, and 33. As such, claims 21 and 30-36 are presented for the Examiner's consideration in light of the following remarks.

### **B. Proposed Amendments**

Applicant has herein amended claims 21, 32, and 33 to further clarify, more clearly define, and/or broaden the claimed inventions to expedite receiving a notice of allowance. For example, claims 21 and 32 have been amended to clarify how the glass preform is formed and removed from the mold in the first process without smashing or breaking the mold and claim 33 has been amended to clarify the claim. The amendments to the claims are supported in the application at least by Figures 26a and 26b and paragraphs [0118] – [0121] of the specification as originally filed. In view of the foregoing discussion, applicant submits that the amendments to the claims do not introduce new matter and entry thereof is respectfully requested.

### **C. Rejections based on 35 USC § 112**

Page 2 of the Office Action rejects claim 33 under 35 USC § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Office Action alleges that it is unclear what is meant by the phrase "taking the mold" recited in the claim. In response, applicant has amended claim 33 to clarify what is meant by this phrase. In light of this, applicant submits of the indefiniteness rejection has been overcome and should be withdrawn.

### **D. Rejections based on 35 USC § 103**

Pages 2-5 of the Office Action reject claims 21 and 31-36 under 35 USC § 103(a) as being unpatentable over U.S. Application Publication No. 2006/0033983 to Dai et al. ("Dai"), in view of U.S. Patent Application No. 7,155,097 to Jakobsen et al. ("Jakobsen"), U.S. Publication Application No. 2003/0045421 to Burger et al. ("Burger"), and European Patent Application No.

EP 1 285 891 to Ohishi et al. (“*Ohishi*”). Applicant respectfully traverses this rejection and submits that the allegedly obvious combination would not include all of the limitations recited in the claims. Of the rejected claims, claims 21 and 32 are independent claims.

The Office Action asserts that *Dai*, when combined with the other cited art in the allegedly obvious manner set forth in the Office Action, teaches all of the limitations of the rejected claims, but concedes that the combination “does not specifically mention the removal of the molded glass from the mold.” The Office Action concludes, however, that it would have been obvious “to expect a removal step of the glass preform from the mold in order to provide the glass preform needed for the second process.”

While it is arguably true that a removal step is required to remove a glass preform from a mold, Applicant submits that absent any discussion to the contrary the removal step that is used is that which conforms to conventional methods. Regarding removal of a glass preform comprised of a tellurite glass from a mold, conventional methods remove the mold by smashing or breaking the mold. Because *Dai* does not disclose anything to the contrary, Applicant submits that *Dai* would only use this conventional removal step. In fact, *Dai* appears to confirm this; in the sections of *Dai* cited by the Office Action, *Dai* discloses that forming a preform is done by “well-known” methods. See paragraph [0087].

In light of the above, Applicant submits that *Dai* does not teach or suggest drawing or removing the hardened glass material from the mold “without smashing or breaking the mold,” as recited in amended claims 21 and 32. Applicant further submits that none of the rest of the cited references cures this deficiency of *Dai*. That is, *Jakobsen*, *Burger*, and *Ohishi* also all fail to teach the above limitation.

Furthermore, while the Office Action asserts that it would have been obvious in *Dai* to simply use the particular composition of glass recited in the rejected claims, Applicant respectfully disagrees. The composition of the glass of the preform is important because suitable viscosity of the glass is necessary in order to make a molded piece using a mold having an inner convex portion. However, none of the cited references teach or suggest a relationship between the composition of the glass and the figuration of the mold.

The glass composition has a large influence on the success of producing the preform in one piece. More specifically, a soft glass such as the tellurite glass recited in the present claims is difficult to take out of a mold without cracking or smashing the mold. Therefore, in the present

invention, the figuration of the mold is formed with a portion corresponding to a core shown, e.g., in Figures 26A, 39A and 41A. The glass preform is taken out by breaking up the mold into predefined separable pieces, and then the glass preform is inserted in a hollow glass tube (cylindrical jacket tube). As such, using the claimed methods, a preform with longitudinal holes with use of the soft glass can be manufactured for the first time. This is a novel approach, not disclosed by any of the cited references.

In light of the above, Applicant submits that a *prima facie case* of obviousness has not been established regarding independent claims 21 and 32 at least because the allegedly obvious combination would not include all of the limitations recited in the rejected claims and because it would not have been obvious to combine the references in the allegedly obvious manner set forth in the Office Action. Accordingly, Applicant respectfully requests that the obviousness rejection with respect to claims 21 and 32 be withdrawn.

Claims 30, 31, and 33-36 variously depend from claims 21 and 32 and thus incorporate the limitations thereof. As such, applicant submits that claims 30, 31, and 33-36 are distinguished over the cited art for at least the same reasons as discussed above with regard to claims 21 and 32. Accordingly, Applicant respectfully requests that the obviousness rejection with respect to claims 30, 31, and 33-36 also be withdrawn.

E. Conclusion

Applicant notes that this response does not discuss every reason why the claims of the present application are distinguished over the cited art. Most notably, applicant submits that many if not all of the dependent claims are independently distinguishable over the cited art. Applicant has merely submitted those arguments which it considers sufficient to clearly distinguish the claims over the cited art.

In view of the foregoing, applicant respectfully requests the Examiner's reconsideration and allowance of claims 21 and 30-36 as amended and presented herein.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise

been requested, please consider this a petition therefor and charge any additional fees that may be required to Deposit Account No. 23-3178.

In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Dated this 21st day of August 2009.

Respectfully submitted,

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